

Watrous
PLUMBING
FIXTURES



TRADE MARK

MANUFACTURED SOLELY BY

The
IMPERIAL BRASS MFG. CO.

Plumbing Division

1200 W. Harrison St., CHICAGO



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PATENTED



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THE IMPERIAL BRASS MANUFACTURING CO.

INTRODUCTION

OVER 40 years of experience in the manufacture of brass and bronze devices of all kinds contribute to the outstanding perfection of Watrous Plumbing Fixtures.

Founded in 1885 by Charles McNellis, this business has outgrown all other institutions of its type in the Central West, its various manufacturing departments occupying a floor space of nearly five acres. Later, when it entered the field of sanitary engineering, its designers planned and developed hygienic appliances to a point of scientific accuracy that set a new pace for specialists in this field.

In 1914, upon the death of Charles McNellis, his son, Frank McNellis, succeeded the former as president of this company.

Unlike nearly all other brass concerns, this institution completes all manufacturing processes in its own departments; the operations of casting, machining, stamping, spinning, polishing, plating, etc., are all carried out in its own shops. The experience of department heads who have matured in the company's service has enabled it to enter successfully one field after another in the brass industry, and a most important one is that of plumbing and sanitary fixtures.

In Wheeling, W. Va., and Tiltonville, Ohio are the immense modern potteries where Watrous DUOJET closets are made. These plants cover over five acres of floor space and embrace every department necessary for the complete manufacture of high grade Vitreous Ware.

It is but natural that, as a result of our researches and unequalled manufacturing facilities, Watrous Plumbing Fixtures should have been chosen for many of the largest and finest hotels, clubs and residences in the country.

The wide experience and abundant financial resources of the Imperial Brass Manufacturing Company make its guarantee, which covers all of its products, a positive protection.

Watrous Flush Valves



No. M-1

GENERAL DESCRIPTION

The Watrous Flush Valve in its present day model has reached a degree of perfection that had never before been attained by any manufacturer.

All inherent faults and defects of previous design and operation have been eliminated through our forty years' experience in brass manufacturing and an active part in the design and operation of flush valves which dates back to the inception of this superior method of closet flushing.

The outstanding features possessed exclusively by the Watrous Flush Valve are:—

Quick and easy accessibility of regulating mechanism.

Absence of small ports which are subject to clogging.

A self cleansing regulating mechanism that opens and clears itself of any foreign matter in the water, every time the valve is flushed.

A slight touch on the operating handle invariably produces a positive flush. The interval or length of the flushing action can be regulated to any desired duration necessary to supply the closet bowl with the exact amount of water required.

Its easy and accurate regulation insure continuous, positive flushing with an absolute minimum of water consumption, a vital factor in large installations where thousands of gallons of water must be



New Morrison Hotel
Chicago
Watrous Valves
will be installed

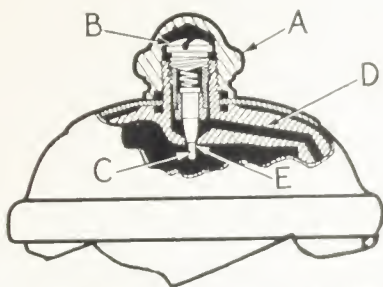


FIG. 1.—SECTIONAL VIEW OF TOP OF VALVE

Illustration shows clearly vital advantages of Watrous Valve over all others.

Removing cap nut "A" exposes regulating screw "B", which when screwed in or out reduces or increases opening between plunger "C" and seat "E" and thus makes it possible to adjust the volume of water for each flush to the exact amount required by any particular closet bowl.

Note that plunger "C" is raised up off its seat "E" by valve mechanism below at every flush, thus making the seat Self-Cleansing. Also note port "D" which is many times larger than ports in all other valves, which are so small that they clog readily.

pumped daily many hundreds of feet above the street level.

The dimensions of the Watrous Valve proper, as well as the fittings, now conform exactly to standard roughing-in requirements, and thus the valve can be readily installed on any type of closet bowl or urinal.

Watrous Flush Valves are much more desirable in every way than the wall tanks now being used, provided the supply pipes to the closets are of sufficient size to furnish the required volume of water, and provided the pressure in the city water main is not too low. The slight increase in size of supply pipes in a new house can be obtained at a very small additional expense if this detail is decided before the house is built.

Specifications for sizes of supply pipes will be given by our engineers for any particular installation, but in general we guarantee Watrous Valves to operate satisfactorily on any range of pressure on which any other make of valve can operate.

On the following pages we show the Watrous Valve in combination with our various types of Watrous Patent DUO-JET Closets, but call the attention of the trade to the fact that the Watrous Valve may be used with any standard closet bowl.



Ben Franklin Hotel
Philadelphia
Watrous Valves
Installed

Watrous Flush Valves



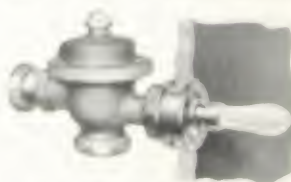
No. M-1 Flush Valve with
inlet opposite Valve Handle.



No. M-2 Flush Valve with
inlet to right of Valve Handle.



No. M-3 Flush Valve with
inlet to left of Valve Handle.



No. M-4 Flush Valve with inlet
opposite Valve Handle for concealed installation.

We also carry No. M-41 with inlet to right of
Valve Handle and No. M-42 with inlet to left of
Valve Handle (not illustrated).

Each No. Each Foot

M-1, M-2 or M-3 Flush Valve, complete,
with shut connections, stop, wall and
spool flange and seat gasket \$15.00

M-41, M-42 or M-43 Flush Valve, complete,
with all accessories for concealed
installation. 20.00

Installation Data For Flush Valves

It is only practical to give general data on piping, pressures, etc., for properly operating Watsons Flush Valves, as each job has its peculiar conditions. Accordingly, we submit the size of pipe required for various pressures on small buildings with one to three water floors. (See table on next page.)

We shall be pleased to furnish size of pipe required for any specific installation upon receipt of building plans or a sketch giving information requested in Questions.

The first question usually asked is: What is the lowest pressure that the Watson Flush Valve will work under? The answer is approximately six pounds, but the volume of water must also be taken into consideration. The water must be supplied to the valve continuously for duration of flush, and although the actual flush period is a matter of seconds, undelayed piping will retard this flow to an extent that no valve will function properly.

Again, it is not altogether a question of the Flush Valve, as the closer bowl has a great deal to do with the quantity of water required for a flush, and the greater amount of water needed, the larger the pipe should be. Watsons Closets are made with two distinctly different operating elements: the Straight Dooter and the Siphon Dooter. The Watsons Straight Dooter type for both wall and floor, depends entirely for its operation on the two powerful converging jets of water, which require a minimum pressure of approximately 10 pounds per square inch. The Watsons

Installation Data For Flush Valves

Continued

Syphon Duojet type, for both wall and floor, has a syphonic action combined with two converging jets of water, and thus will operate on as low pressure as all competitive makes of closets.

A small $\frac{3}{4}$ " tap on the water main will only permit a limited amount of water to be drawn under the prevailing pressure. If the pressure is as low as 20 pounds, very little can be expected of any flush valve working under direct pressure from water main. A 1", $1\frac{1}{4}$ " or $1\frac{1}{2}$ " tap in water main should be provided for all homes and small buildings. The length of supply pipe should govern the size.

A meter of a smaller size than tap, or even one of the same size, retards the water, and in addition, right angle pipe bends, if many, have the effect of creating friction: therefore, in many cases, such as in bungalows, residences and flat buildings, we recommend a compression or storage tank installation to properly supply the volume of water momentarily required by the Flush Valves.

In old installations, where the size of water supply from main cannot be increased, or on new jobs where the city ordinance will only permit a $\frac{3}{4}$ " meter, a storage or compression tank installation is necessary.

On large installations, a storage tank with pumping facilities or a pressure system for increasing the water pressure is always provided. In this case, the important detail is to use the proper size of pipe for volume requirements.

Installation Data For Flush Valves

Continued

Contrary to opinion, increasing the size of piping for furnishing an ample supply of water to Flush Valves, does not mean a greater consumption of water, but rather a saving of water, if the Watrous Flush Valves are used in combination with the Watrous Duojet Closet Bowls. The larger size of piping also insures ample water supply for all the other fixtures, so that a bathtub faucet may be run on the top floor at the same time a laundry tub faucet is running in the basement.

To come to some conclusion as to what type of Closet Bowl will work satisfactorily under direct pressure operation, whether the Watrous Straight Duojet or the Watrous Syphon Duojet, secure the following information:

1. Minimum water pressure in pounds per square inch at water main.
2. Size of supply pipe from water main.

Then to determine the available water pressure at location of Flush Valve in some elevated position, deduct one pound from the initial pressure, for each two feet the water is to be elevated.

Three Urinal Flush Valve Combinations will operate on the same amount of water as is required by one water closet in a given location.

A simple test, if facilities are available, is to open the pipe at location and note the time required to fill a five-gallon container. If five gallons can be drawn in 20 seconds or less, the Flush Valve will have ample supply.

Installation Data

Minimum Pressure at Flush Valve	Total Length of Supply from the Flush Valve to the Water Main or Storage Tank in feet.											
	20'	25'	30'	40'	50'	60'	80'	100'	125'	150'	200'	250'
6 lbs.	1 1/2	1 1/2	1 1/2	1 1/2	2	2	2	2	2	2	2 1/2	3
10 "	1 3/4	1 3/4	1 3/4	1 3/4	1 1/2	1 1/2	1 1/2	1 1/2	2	2	2	2 1/2
15 "	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2
20 "	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	2
25 "	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2
30 "	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
40 "	1	1	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4
50 "	3/4	1	1	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4
60 "	3/4	3/4	3/4	1	1	1	1	1	1	1	1 1/4	1 1/4
70 "	3/4	3/4	3/4	3/4	1	1	1	1	1	1	1 1/4	1 1/4
80 "	3/4	3/4	3/4	3/4	1	1	1	1	1	1	1	1

NOTE—The sizes given are for one to three valves.

Some Representative Watrous Installations



Geriatric Homeopathic
Hospital, Chicago.
Watrous Valves and
Dissect Closets
Installed.



Liberty Plaza
Hotel
Indianapolis, Ind.
Watrous Valves and
Dissect Closets
Installed.



Chase Hotel, St. Louis.
Watrous Dissect Wall Closets Installed.



Kansas City Athletic
Club
Watrous Valves
Installed.



Hamilton Club
Chicago
Watrous Valves and
Dissect Closets
Installed.

Warranted Genuine Thomas Smith's Patent Toilet



The Thomas Smith's Patent Toilet is the most perfect and reliable of all. It is made of the best material and is guaranteed to last for ever. It is the only toilet that is not liable to clog and is the only one that is not liable to leak. It is the only toilet that is not liable to rust and is the only one that is not liable to break. It is the only toilet that is not liable to be stolen and is the only one that is not liable to be damaged. It is the only toilet that is not liable to be used and is the only one that is not liable to be thrown away.

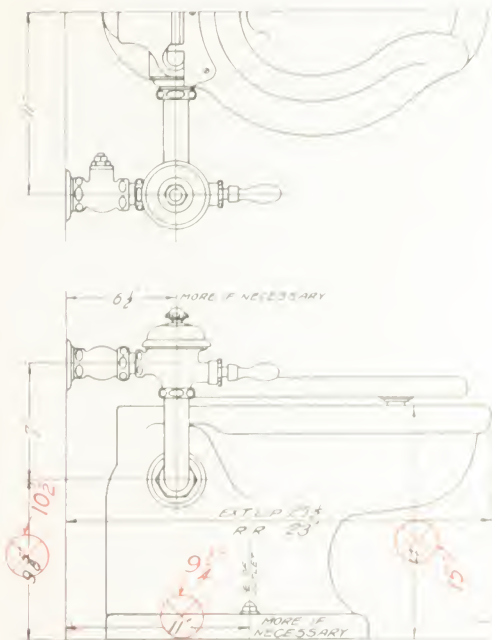
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Watrous Closet Combination Roughing-In Dimensions



Overall Width of Combination 10 1/2"

No. M-514

In this type of bowl, the Duojet principle, described on pages 16 to 19, is combined with a non-clogging syphon element which aids in the action of the bowl and makes it possible to operate at lower water pressure than is required for our straight Duojet closet described on the following page.

Watrous Duojet Floor Closet Combination



No. M-502

This is a relatively low priced Closet Combination, and is suited for public toilet room installations, in office buildings, hotels, etc., where proper pressure and water supply is provided and where a quick-action closet bowl is desired. This bowl consumes about two gallons of water at each flush. This Closet can be furnished with regular rim if preferred.

The Birch-Mahogany, open front, full saddle seat with extended lip provides sanitary features which are very desirable in public toilets.

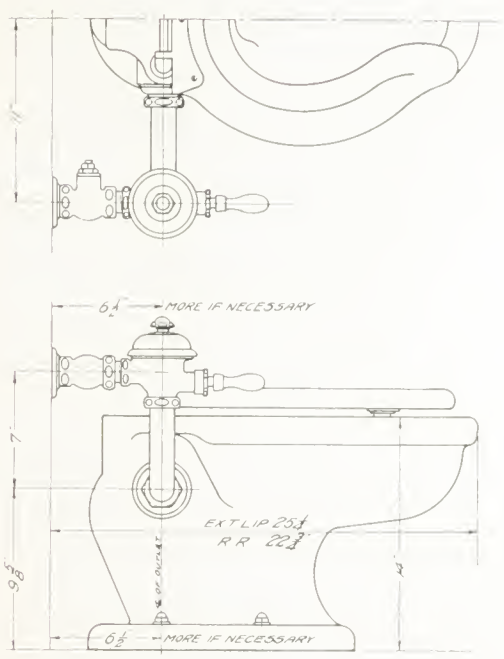
In case waste outlet in floor is required to be a greater distance from wall than is shown, order sufficient M-39 N. P. casing to cover the 1-inch iron pipe extended nipple.

Cat. No. List

M-502—Closet Combination, complete.....	\$55.00
M-502—Less Seat	48.20

Approximate weight crated: Bowl 60 lbs.,
Valve 8½ lbs., Seat 13 lbs.

Watrous Closet Combination Roughing-In Dimensions



Overall Width of Combination, 20 1/2"

No. M-502

This type of bowl requires a water pressure of approximately 10 pounds.

The operating principle of this type of bowl is described in detail on pages 16 to 19.

Compare These



Fig. 2

ORDINARY SYPHON JET CLOSET

Note the single jet and zig-zag outlet passage.

Fig. 3 shows a sectional view of the WATROUS DUOJET principle in action. This is, by far, the most efficient of water closets. The two powerful converging jets completely fill it with a live spray, and produce a steam element and eliminating the objectionable down draught of syphon closets.

Syphon Closet

See Fig. 2

Small, contracted, with zigzag outlet. Clogs easily, frequently necessitating removal of bowl.

Slow and sluggish. Short flush after most of the water is wasted in starting a syphonic action.

Uncertain flush and refill, using 5 to 7 gallons of water.

Regular height 15" to 16". Less height, less efficiency.

Originally designed for use with closet tanks, but when used with flushing valves under pressure service, the syphonic action becomes a detriment to and interferes with the proper and intended action of the closet.



Belden Hotel,
Chicago
Watrous Valves and
Duojet Closets
Installed

Two Closets



FIG. 1
 WARREN DUODET TOILET FIXTURE
 "You get one, you get it right."

THE DUODET FLUSH CLOSET, has the NEW & important scientific development in the operation of waste coming together at the entrance of the trap, & instantaneous action, dispensing with the unpleasant splash which is a necessary result of ordinary

Warren Duodet

(See Fig. 1)

Full 12" porcelain with straight rim. Comfortable and healthy, instant response to pressure of foot.

Quick and positive. Continuous flow from seat to bowl.

Exceeds flush and seal long used & has less or less of waste.

Regular height 14" & also 16" models with no change in operation.

Scientifically designed to operate with flush ing water to provide the highest possible degree of efficiency in service and the removal of waste. Automatic means to insure operation of moving water pressure.



FIG. 2
 WARREN DUODET
 FLUSH CLOSET

You Pay for This Gigantic Waste

AN installation of ordinary syphon closets means that 60% to 70% of the water used for flushing is wasted.

Water waste is a big problem right now—especially in Chicago where protest has been made against lowering of lake levels. Tests conducted in this city prove that old-fashioned syphon closets waste 150,000,000 gallons of water daily. Leaks and inefficient flushes are responsible for a further daily waste of 200,000,000 gallons—an amazing total of 350,000,000 gallons daily.

The conservation of water is an important matter not only in Chicago but in cities where meters are installed and where every gallon of water used must be paid for by property owners.

The ordinary syphon closet uses 5 to 7 gallons for each flush and refill—and gives but an uncertain flush.

The Watrous DUOJET is guaranteed to give a positive, perfect flush and refill using 2 gallons or less of water.

A long series of tests with various types of closets positively established the superior efficiency of operation and the tremendous saving of water made by the DUOJET.

Watrous DUOJET closets cost no more than the old-fashioned, water wasting types. In any building they mean quick, positive, efficient flushing and a saving of 60% to 70% in water.



Brown Hotel,
Louisville
Watrous Duojet
Wall Closets
Installed

Watrous Duojet Wall Closet



Fig. 1

The Watrous Duojet Wall Closet Toilet has been selected as standard toilet for the Hotel, apartment, and commercial buildings, and is the most popular toilet in the world.

As shown in the illustration, the Duojet Toilet has a unique design, and is the only toilet in the world that has a built-in seat and lid, and is the only toilet in the world that has a built-in seat and lid.

The Duojet Toilet is the only toilet in the world that has a built-in seat and lid, and is the only toilet in the world that has a built-in seat and lid. The Duojet Toilet is the only toilet in the world that has a built-in seat and lid, and is the only toilet in the world that has a built-in seat and lid.

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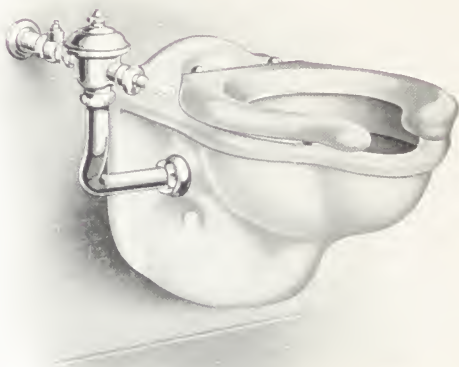


Fig. 2



Fig. 3

Watrous Syphon Duojet Wall Closet Combination



No. M-601

This is one of our best Closet Combinations, and is suited for hotel bathrooms, residence bathrooms, etc., where a quiet-working bowl is desired. It will flush under a lower pressure than the Straight Duojet bowl, and consumes less than three gallons of water at each flush. Being a wall hung bowl, it enables a most sanitary condition of the floor not possible with the floor type of bowl.

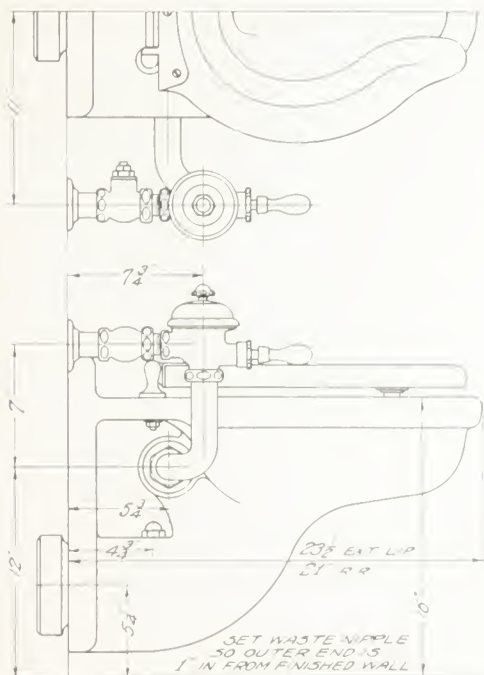
The composition, open front, full saddle seat with extended lip provides sanitary features that are very desirable in public toilets.

This Closet can be furnished with regular rim and open front seat, with cover for private toilets in residences, etc.

Cat. No.	List
M-601—Closet Combination, complete.....	\$89.80
M-601—Less Seat	77.10

Approximate weight crated— Bowl 68 lbs.,
Fittings 15 lbs., Valve 8½ lbs., Seat 13 lbs.

Watrous Closet Combination Roughing-In Dimensions



Overall Width of Combination, $20\frac{1}{2}$ "

No. M-601

This type of bowl will operate under a water pressure as low as any other make of closet bowl.

In this type of bowl, the Duojet principle, described on pages 16 to 19, is combined with a non-clogging syphon element which aids in the action of the bowl.

Watrous Syphon Duojet Wall Closet Combination



No. M-610

This is one of our best Closet Combinations, and is suited for hotel bathrooms, residence bathrooms, etc., where a quiet-working bowl is desired. It will flush under a lower pressure than the Straight Duojet bowl, and consumes less than three gallons of water at each flush. Being a wall hung bowl, it enables a most sanitary condition of the floor not possible with the floor type of bowl.

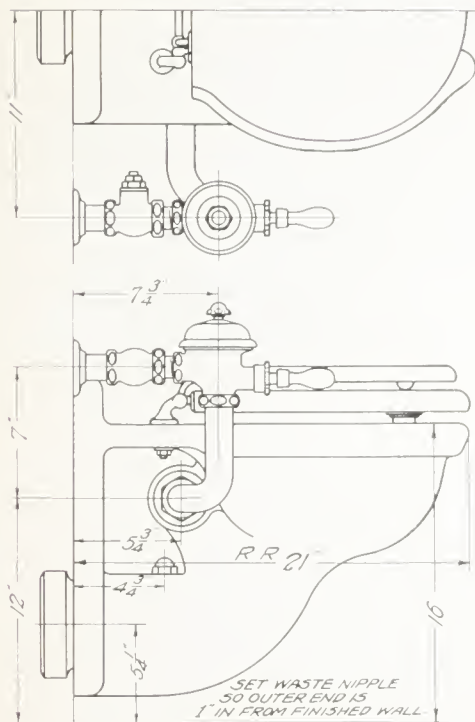
This Closet is furnished with regular rim and open front seat, with cover. Other style of seats can be furnished if desired.

Cat. No.	List
M-610—Closet Combination, complete.....	\$87.10
M-610—Less Seat	74.40

Approximate weight crated. Bowl 67 lbs.,
Fittings 15 lbs., Valve 8½ lbs., Seat 15 lbs.

Watrous Closet Combination

Roughing-In Dimensions



Overall Width of Combination, $20\frac{1}{2}$ "

No. M-610

This type of bowl will operate under a water pressure as low as any other make of closet bowl.

In this type of bowl, the Duojet principle, described on pages 16 to 19, is combined with a non-clogging syphon element which aids in the action of the bowl.

Watrous Straight Duojet
Wall Closet Combination



No. M-603

This is one of our medium priced Closet Combinations, and is suited for public toilet room installations in office buildings, hotels, etc., where proper pressure and water supply is provided, and where a quick-action closet bowl is desired. Having an extended lip, it projects about 2½ inches more than our M-604 Combination.

Being a wall hung bowl, it enables a most sanitary condition of floor, not possible with the floor type of bowl.

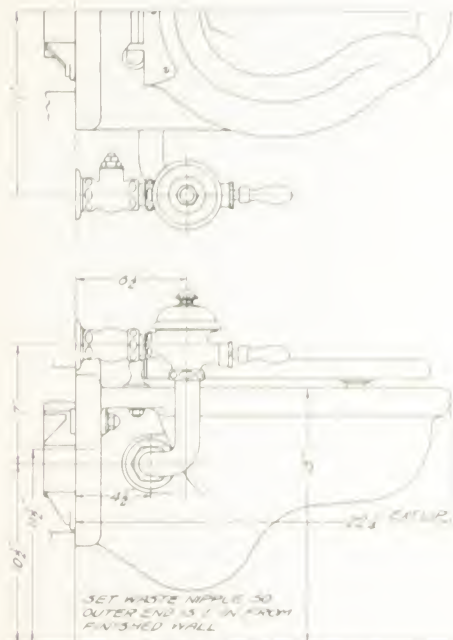
This bowl consumes about two gallons of water at each flush.

The composition, open front, full saddle seat with extended lip provides sanitary features which are very desirable in public toilets.

Cat. No.	List
M-603—Closet Combination, complete.....	\$81.50
M-603—Less Seat	68.80

Approximate weight crated: Bowl 66 lbs.,
Fittings 7 lbs., Valve 8½ lbs., Seat 13 lbs.

Watrous Closet Combination Roughing-In Dimensions



Overall Width of Combination 20"

No. M-603

This type of bowl requires a water pressure of approximately 10 pounds.

The operating principle of this type of bowl is described in detail on pages 16 to 19.

Watrous Self-Closing Faucet



No. M-772

This is a popular type of packless self-closing Faucet that is absolutely non-leaking. The spout has an anti-splash flare.

The lever handle is very easy to operate, and at the same time closes positively when released. The coupling nipple is threaded for one-quarter inch iron pipe.

It is pleasing in design, heavily nickel-plated and beautifully polished.

Cat. No.

List, Each

M-772—Self-Closing Faucet, Lever

Handle.....\$3.50

Watrous Self-Closing Faucet



No. M-774

This Faucet has the same intermediate flare on the spout as the lever handle Faucet described on the preceding page, but is arranged for push button operation.

It is pleasing in design, heavily nickel plated and beautifully polished.

C. P. N.

For Sale

M-774 — Self-Closing Through Plug

Bottom

\$3.90

Watrous
Lavatory Waste



No. M-790

This waste operates on a pop-up principle having an absolutely positive action. It is extremely simple in design, having one-third the parts used in other makes of waste.

It is quickly and easily installed, being adjustable for any thickness of lavatory. The operating rod has a universal ball joint which compensates for different hole spacings. Has 1¼ inch tail piece.

It is regularly furnished with porcelain knob and nickel plated escutcheon, but a porcelain escutcheon can be furnished upon request, at a slight increase in cost.

Cat. No	List, Each
M-790—Lavatory Waste, N. P. Escutcheon	5.00
M-791—Lavatory Waste, Porcelain Escutcheon	5.50

Watrous Lavatory Fixture

Combination



No. M-792

COMBINATION FIXTURE

This is an ideal fixture for lavatories in hotels, residences, etc., being arranged for hot and cold water with a single spout. The operating handle of the waste is an integral part of the spout. It is adaptable to any thickness of lavatory, and the coupling nipple threaded for one-quarter inch iron pipe.

It possesses several advantages over other makes in that the stems are non-rising, quick opening, and the fixture has a novel swivel arrangement connecting the supplies, which readily takes care of variations in spacing of faucet holes.

Cat. No.

List. Each

M-792—Lavatory Fixture\$16.00

Watrous Liquid Soap Fixture



No. M-801

FOR ATTACHMENT TO VITREOUS WARE OR
ENAMELED IRON LAVATORIES

Above fixture has a concealed container and a minimum of exposed metal parts. Delivery of soap is effected by depressing push button at top of fixture. A slight movement delivers a fixed quantity into the hand without drip or waste.

Fills through top by removing push button cap. Practically fool-proof and indestructible and can be applied to the cock hole of an ordinary lavatory.

Cat. No.	List. Each
M-801—Liquid Soap Fixture for lavatories up to 1 $\frac{1}{4}$ " thick.....	\$5.00
M-812—Liquid Soap Fixture for lavatories up to 4 $\frac{1}{2}$ " thick.....	6.50

Watrous Liquid Soap Fixture



See Model
The Accessories to Watrous

This horizontal fixture is for mounting in the wall of bath or lavatory.

A light upright fixture is also made upon the platform underneath the globe and the globe is surrounded (without oil lamp and no more). The opening toward the top of the inverted bulb prevents the soap from escaping, except when it is forced out by actual operation of the plunger at the bottom of the fixture.

See also	page 100
M-854 - Liquid Soap Fixture	100 (C)

Watrous Liquid Soap Fixture



No. M 803

FOR ATTACHMENT TO WALL

A flexible wire forms a strong and most rigid fastening means.

Fills through an opening in the top having a hinged cover. Nothing to become loose or stolen. All screw threaded joints and cement eliminated.

Has a positive discharge, cannot clog, leak or get out of order, and with ordinary care should last indefinitely.

50,000 fixtures with a similar operating means now in satisfactory operation.

Cat. No.

List, Each

M 803—Liquid Soap Fixture.....\$3.40



